**Cassondra Easterling**

**Advanced Kindergarten ESL**

**90-minute block**

**Are Healthy Food Choices Also Healthy for the Environment?**

**Background**:This lesson would fit into a unit on the environment andsustainability.During the lesson, students will examine the question if foods that are healthy for them to eat are also healthy for the environment. As background knowledge,teachers may refer to the United Nations’ 2006 report titled *Livestock’s Long Shadow* available at http://www.fao.org/docrep/010/a0701e/a0701e00.htm. Chapter IV discusses water used by animal agriculture. The report concludes that livestock production is a leading source of environmental degradation including climate change, water and air pollution, destruction of land, and loss of biodiversity. The report suggests a plant-based human diet would prevent much of the environmental damage caused by animal agriculture. (Source: The Vegetarian Resource Group, www.vrg.org/environment/Water\_Lesson\_Plan\_5-8\_for\_teachers.doc)

**Aim:** Students will be able to name favorite foods and classify those foods into groups depending on if they are healthy for us to eat or not healthy for us to eat. Students will be able to make predictions as to if foods that are healthy for us to eat will also be healthy for the environment. Students will be able to list various liquids we can measure with a gallon. Students will be able to interpret data to determine how many gallons of water it takes to produce various foods. Students will be able to assess which foods are healthy for the environment based on the number of gallons of water used to produce that food and draw conclusions as to if those are the same foods that are healthy for us to eat.

**Linguistic Goal**: Speaking in complete sentences using academic language with modeling and support (\_\_ is (are)/is (are) not healthy for us to eat., I predict…, We can measure \_\_ with a gallon., It takes \_\_ gallons of water to produce\_\_\_., \_\_\_ are healthier for the environment than \_\_\_ because…, \_\_\_ is/are healthy for us to eat and healthy for the environment because…)

**Vocabulary**: Gallon, Produce, Environment, Healthy, Liquid

**Reading/Writing Goal**: Independent writing using capital letters, finger spaces, punctuation, and phonetic spelling

**Content Goal/Interdisciplinary Connections**: Math (Reading a graph); Science (Personal health)

**ESL Standards**: Standard 1: English for information and understanding; Standard 3: English for critical analysis and evaluation; Standard 4: English for social and classroom interaction

**National Core Standards**: K.RF.3 - Know and apply grade-level phonics and word analysis skills in decoding words; K.W.2. - Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. K.W.8 - With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. K.SL.1 - Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. K.L.2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. K.L.6 - Use words and phrases acquired through conversations, reading and being read to, and responding to texts. K.L.5a - Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

**Differentiation**: Visuals of foods, Graphic representation of data, Picture/Word cards for vocabulary, Realia - Gallon of water to drink as a class to provide a concrete example, Graphic organizer – T-chart, Sentence frames, Sentence starters

**DOK Levels**: Level 1 – Name, List; Level 2 – Classify, Predict; Level 3 – Assess; Draw conclusions

**Materials**: Data chart, Gallon of water, Cups, Chart paper, Markers, Sentence strips, Word cards, Visuals

**Motivation**: Teacher will show gallon jug of water and give each student a cup of water to drink. Class will discuss uses for water and liquids they have seen in gallon jugs using sentence starters.

**Professional Goals**: 3c - Students will be cognitively engaged with the activities and the content will be linked to the students’ prior experiences. The lesson will allow for reflection and closure.

**Procedure**:

**Mini-Lesson Skill to be Taught**: Using a data chart to determine the number of gallons of water required to produce various foods and drawing conclusions about those foods and the effect on the environment

**Mini-Lesson Format**: As a class, students will brainstorm favorite foods. Teacher will write foods on word cards with a sketch. Students will turn and talk to a partner using a sentence frame discussing which foods are healthy for us to eat and which foods are not healthy for us to eat. Class will share responses with students moving the associated word card to the appropriate side of the t-chart. Students will make predictions as to if the foods they decided are healthy for them to eat are also healthy for the environment using a sentence starter. Teacher will explain data chart to students and model reading the information. Class will work together to determine information displayed in the chart using frame sentences (i.e. display data as a bar graph and students determine values using scale).

**Individual** **Work**: Using the information from the chart and the class discussion, students will select one food that they determined is healthy for them to eat and healthy for the environment. Students will draw a detailed picture of the food and write a sentence explaining why they selected that food.

**Conferencing**: Teacher will circulate to assist individual students during independent writing time.

**Share Session**: Students will be selected to share their drawings and sentences with the class.

**Reflection**: What did we learn today? How can we use this information to help the environment?

**Follow Up**: The class will continue examining the question if foods that are healthy for us to eat are also healthy for the environment. In subsequent lessons we will look at food choices in terms of energy used and waste produced.

**Rubric**:

|  |  |  |
| --- | --- | --- |
| 2 | 1 | 0 |
| I drew a detailed picture.  I started my sentence with a capital letter.  I used finger spaces.  I ended my sentence with a period.  I tapped out my words.  I picked a food that is healthy for the environment and me.  I wrote a sentence telling why I picked the food I did. | I used some details in my picture.  I tried to use a capital letter, finger spaces and/or a period.  I tried to tap out my words.  I picked a food that is healthy for the environment and me.  I tried to write a sentence telling why I picked the food I did. | I used few or no details in my drawing.  My teacher cannot read my writing.  I did not pick a food that is healthy for the environment and me.  I did not do anything. |

**Data:**

From The Vegetarian Resource Group, www.vrg.org/environment/Water\_Lesson\_Plan\_5-8\_for\_teachers.doc

**Table 3. Water Used to Produce Some Common Items**

*(Note: One liter (approximately one quart) equals 1,000 milliliters (ml). One pound equals 454 g.)*

|  |  |
| --- | --- |
| **Food Item** | **Water Needed for Production (L)** |
| 1 glass of milk (200 ml) | 200 (53 gallons) |
| 1 slice of bread (30 g) | 40 (11 gallons) |
| 1 slice of bread (30 g) with cheese (10 g) | 90 (24 gallons) |
| 1 potato (100 g) | 25 (7 gallons) |
| 1 bag of potato chips (200 g) | 185 (49 gallons) |
| 1 apple (100 g) | 70 (19 gallons) |
| 1 tomato (70 g) | 13 (3 gallons) |
| 1 egg (40 g) | 135 (36 gallons) |
| 1 hamburger (150 g) | 2400 (634 gallons) |
| Cheese pizza (made in Italy; per 150 g = ~1/4 pizza) | 248 (66 gallons) |
| Tomato pizza (made in Italy; 150 g = ~1/4 pizza) | 75 (20 gallons) |

*Note: Values taken from Chapagain A, Hoekstra A* *(2004*) Water Footprints of Nations Volume One: Main Report. *Value of Water Research Report Series No.16. Delft (The Netherlands): UNESCO – IHE Institute for Water Education.* http://www.waterfootprint.org/Reports/Report16Vol1.pdf

*Asterisked values taken from Aldaya M, Hoekstra A. (2009) The* Water Needed to Have Italians Eat Pasta and Pizza. *Value of Water Research Report Series No.36. Delft (The Netherlands): UNESCO – IHE Institute for Water Education.* http://www.waterfootprint.org/Reports/Report36-WaterFootprint-Pasta-Pizza.pdf

From Cornell University, http://www.news.cornell.edu/releases/aug97/livestock.hrs.html

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| --- | --- |
| **Food** | **Water Needed for Production** |
| Chicken (1Kg/2.2lbs) | 3,500 L/925 gallons |
| Soybeans (1Kg/2.2lbs) | 2,000 L/528 gallons |
| Rice (1Kg/2.2lbs) | 1,912 L/505 gallons |
| Wheat (1Kg/2.2lbs) | 900 L/238 gallons |